



MIT International Center for Air Transportation

Impact of Air Transportation on Regional Economic and Social Connectivity in the United States

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Massachusetts Institute of Technology

JUP Meeting
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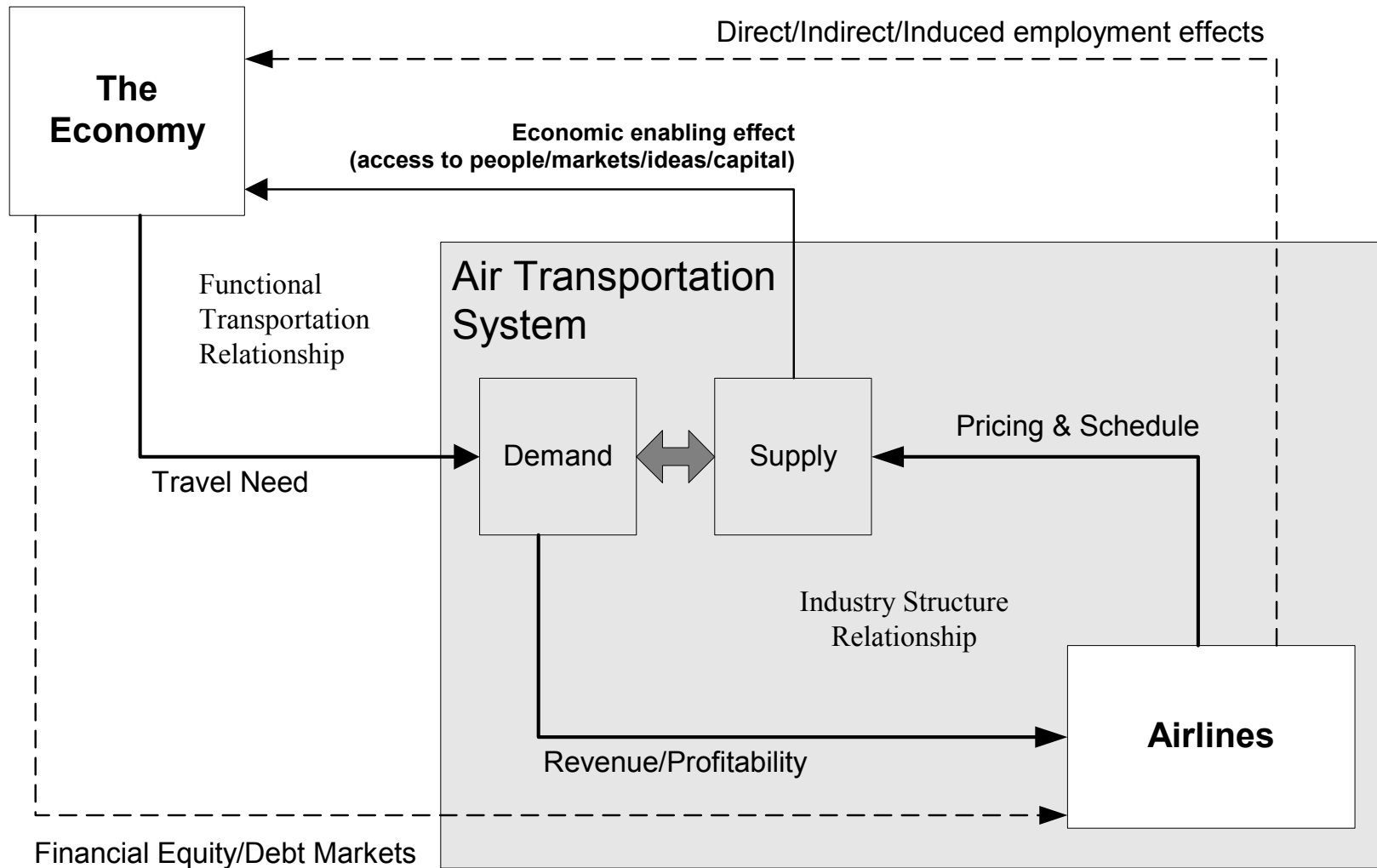
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Overview



- **Conceptual Model**
 - **Relationship between the Economy and the Air Transportation System**
 - **Changes in the Airline Industry after Deregulation**
 - **Industry Challenges Since 9/11**
 - **Key Questions for the Airline Industry**
-

Conceptual Model



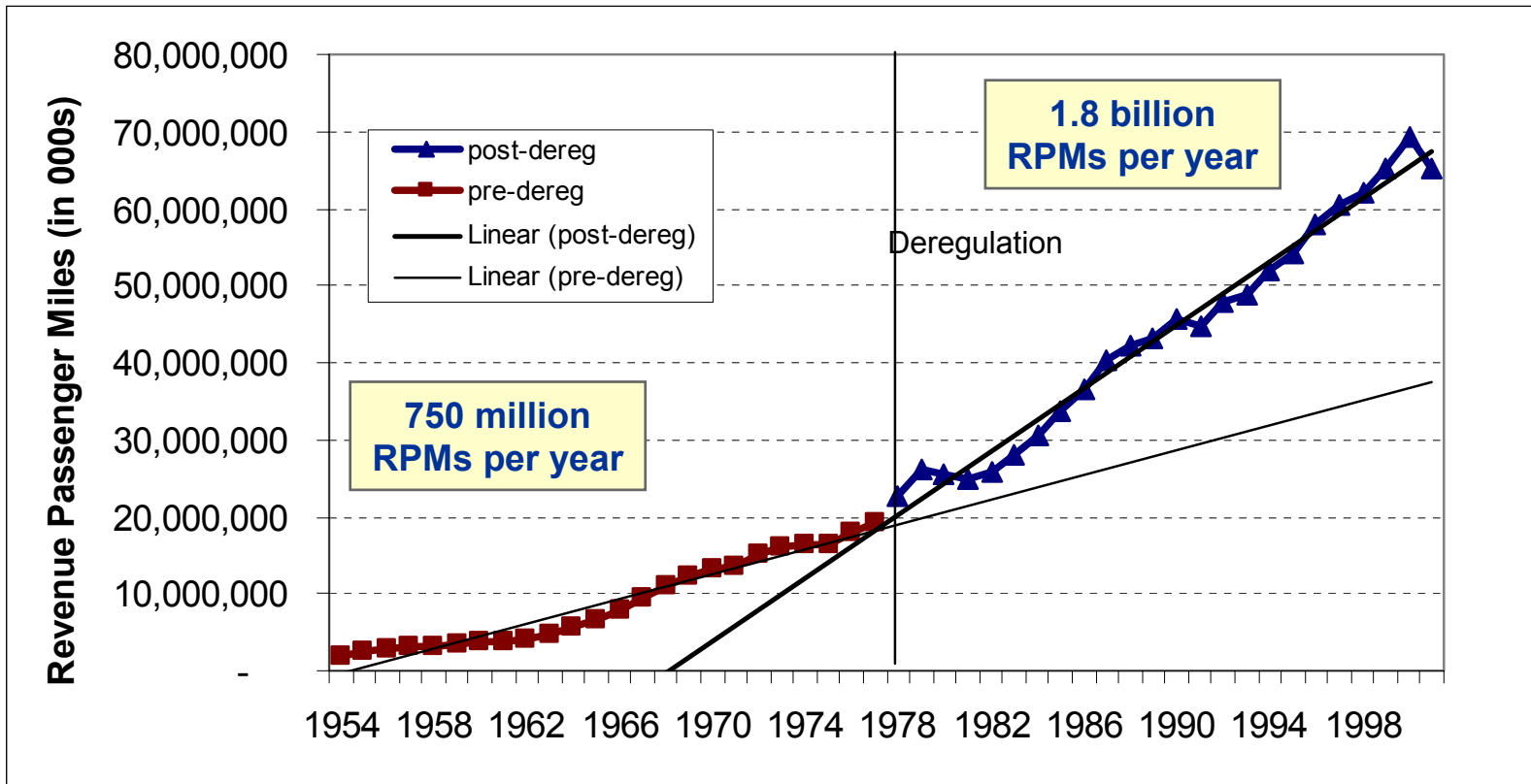


Relationship between the Economy Economy and the Air Transportation System

Growth in Air Travel
The Economy
Changes in Regional Geography
Changes in the type of Air Travel
Travel



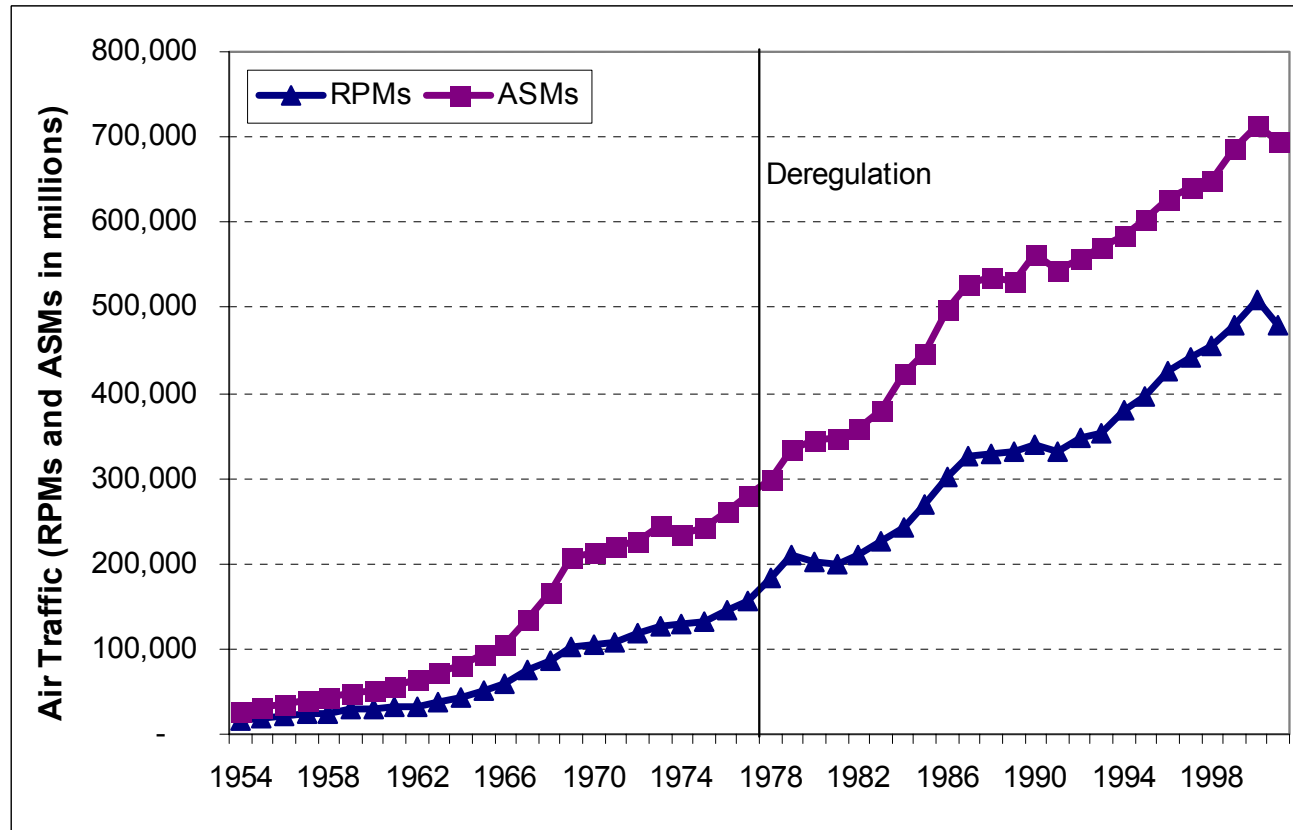
Growth in Air Travel



Domestic air travel grew faster after deregulation

Source: BEA and BTS OAI data

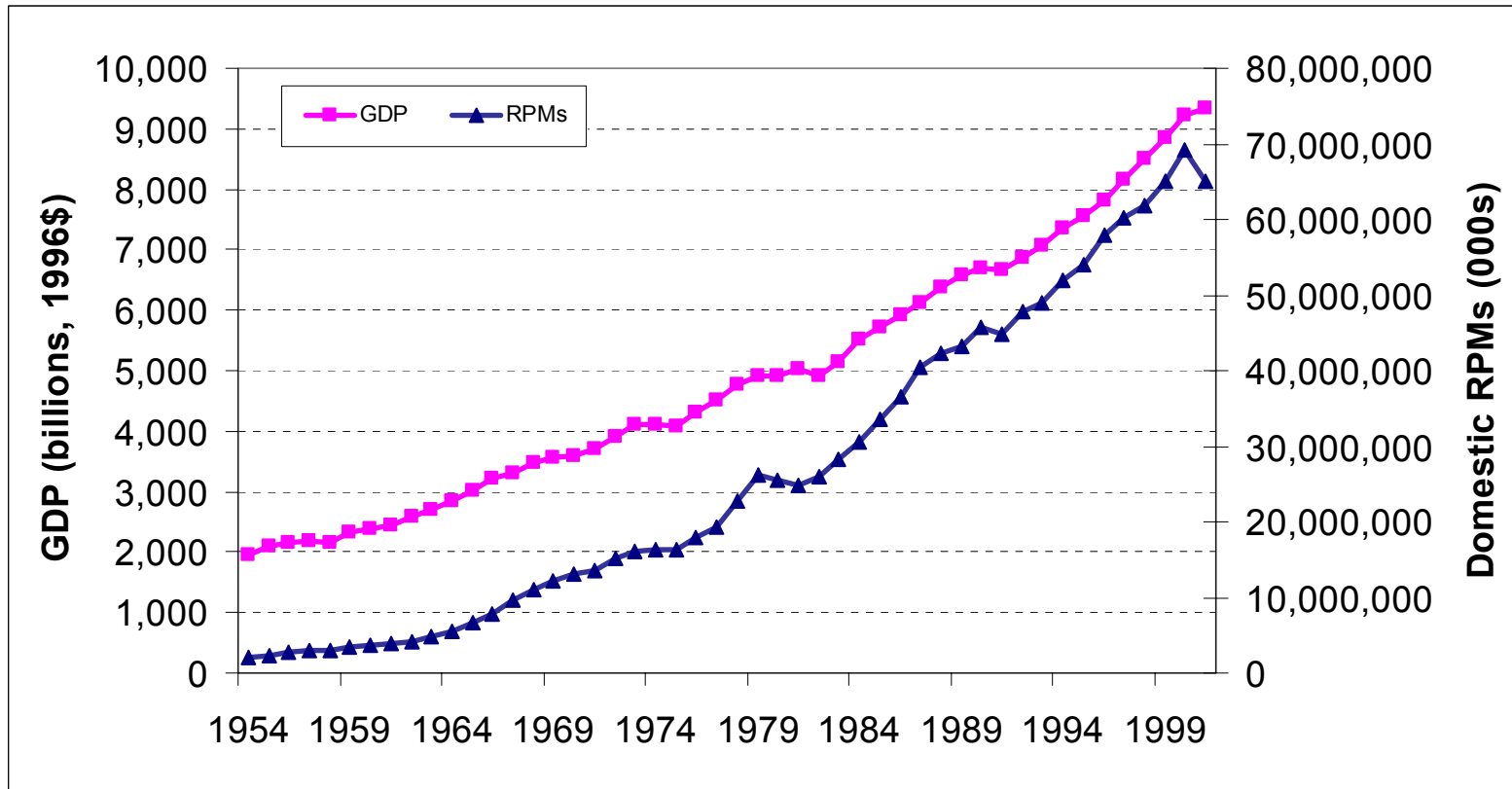
Growth in Air Travel



Domestic capacity has more than doubled since 1978

Source: ATA data

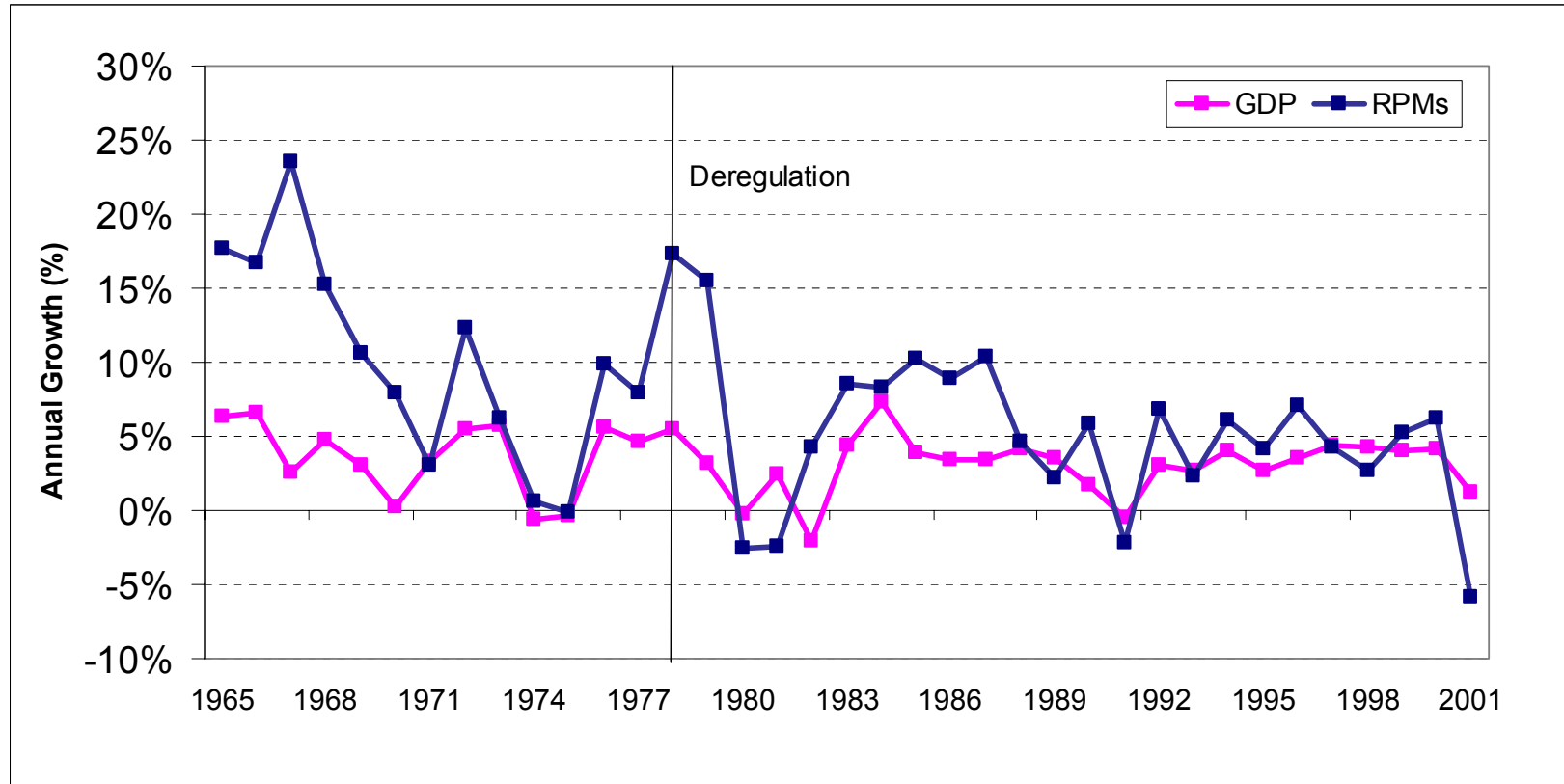
Economic Activity



RPM trends parallel economic growth

Source: BEA and BTS OAI data

Economic Activity



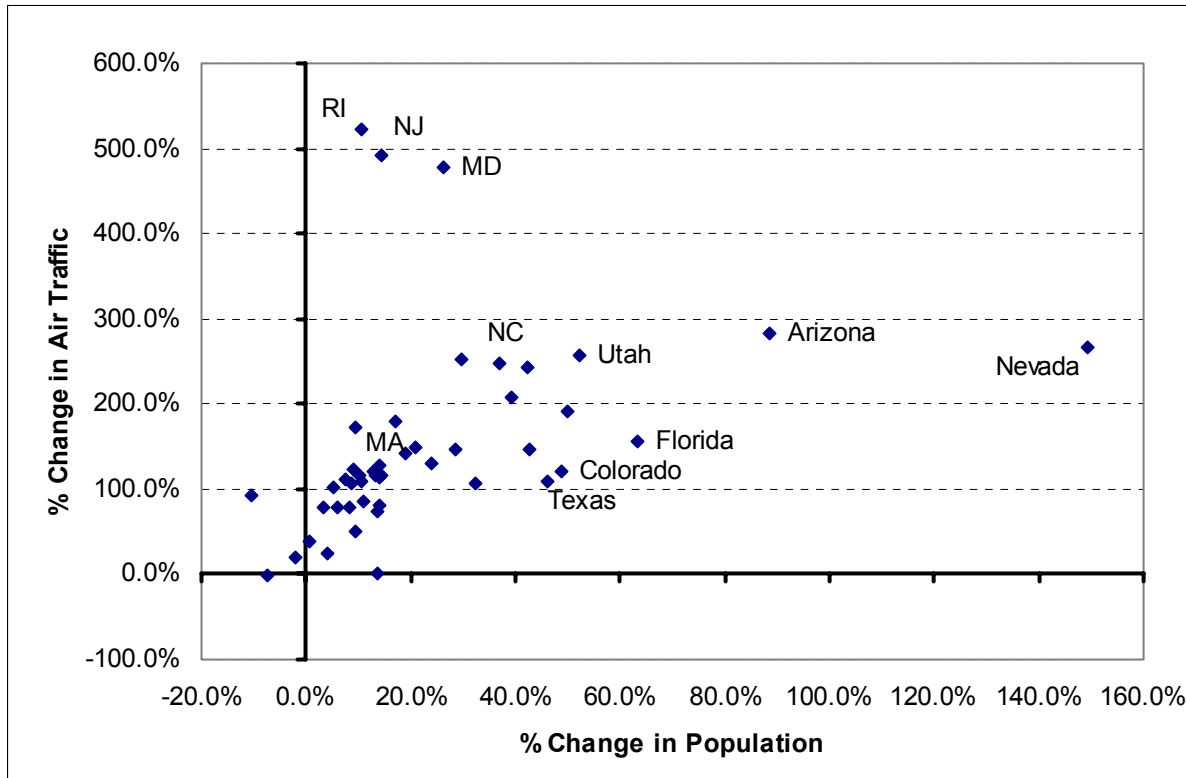
Closer correlation between GDP and RPMs after deregulation

Source: BEA and BTS OAI data

- **Traditional measures of employment and spending in the aviation industry**
 - 11.6 million direct, indirect, and induced jobs
 - \$316 billion dollars in earnings
- **Does not capture the “Enabling Effect”**
 - Air connectivity provides access to markets, capital, ideas, and people

Source: FAA Economic Impact of Civil Aviation on the US Economy 2002, Interim Results

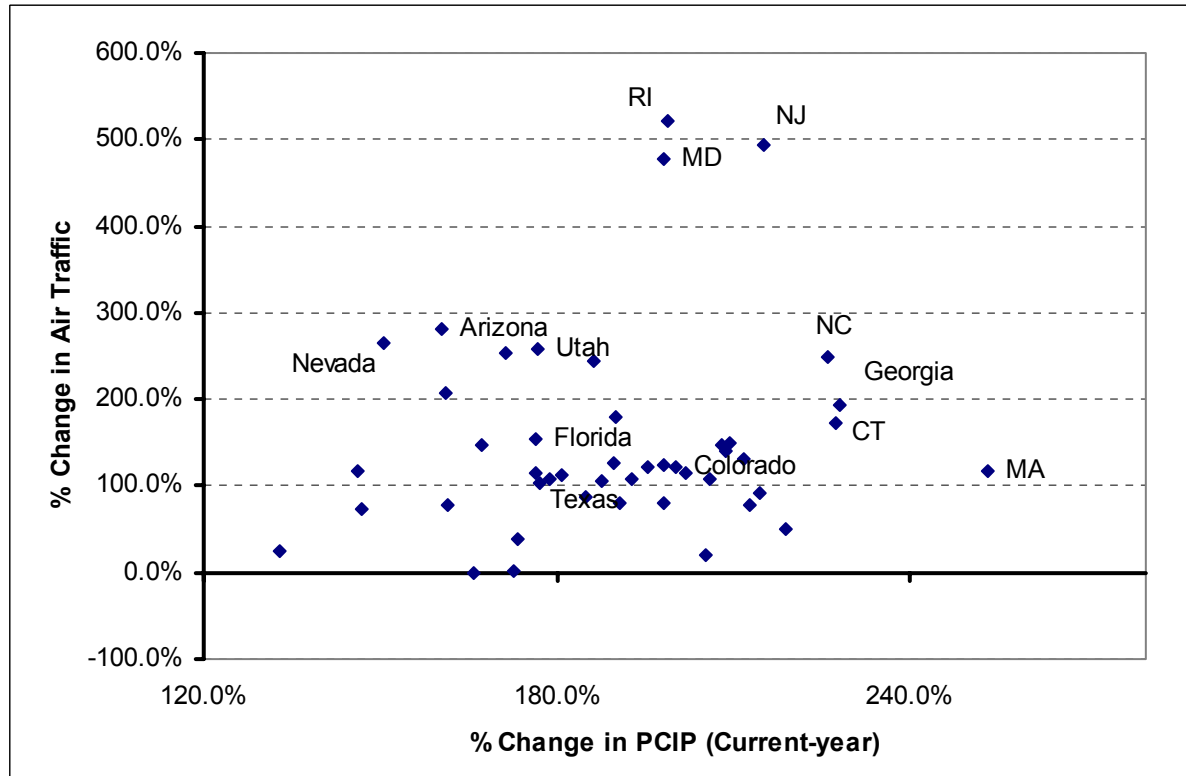
Regional Geography



State Population vs. Air Travel

Source: BEA and DOT 10% Database

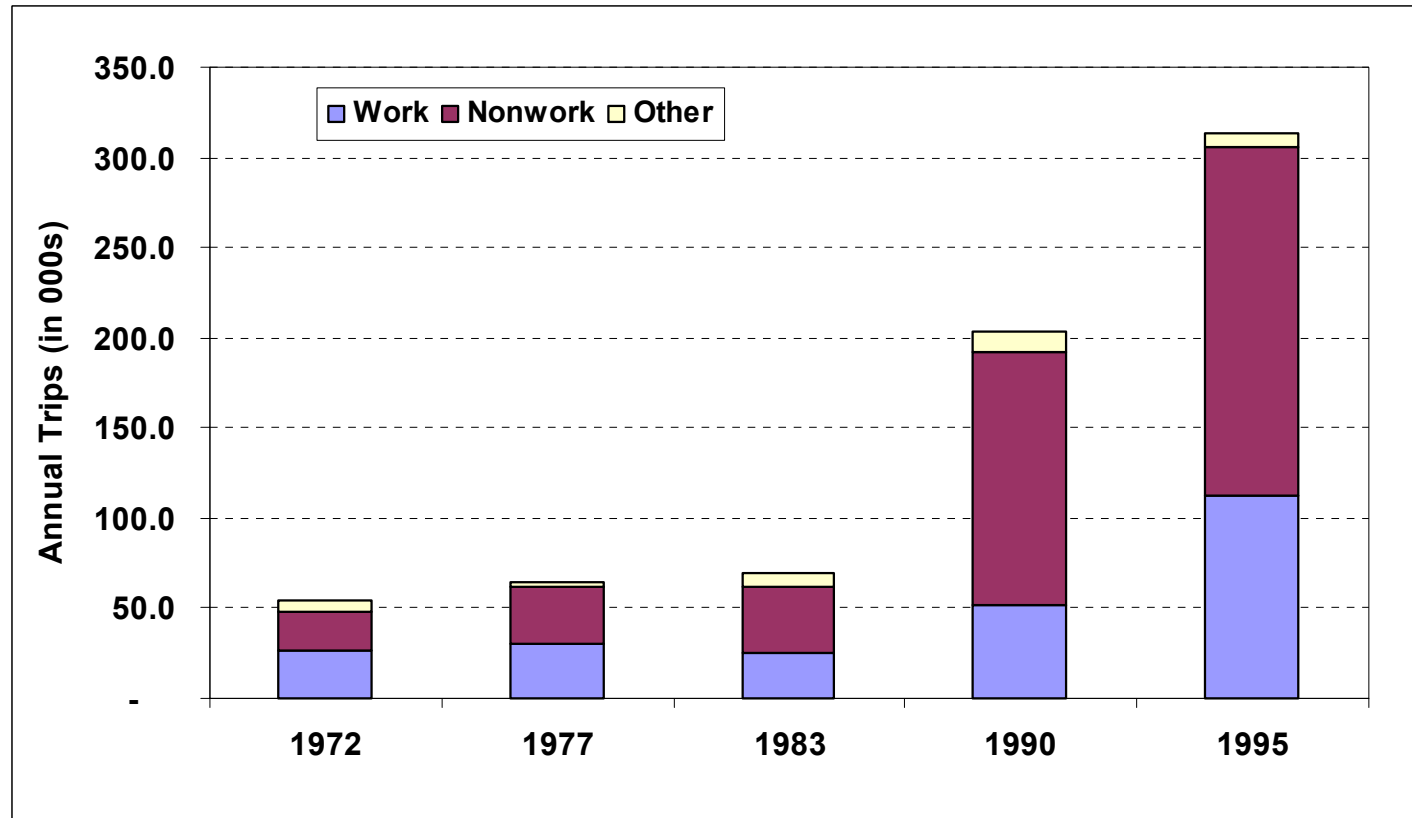
Regional Geography



Per Capital Personal Income vs. Air Travel

Source: BEA and DOT 10% Database

Social Characteristics



Increase in use of air travel for non-work purposes

Source: US DOT NPTS, US Census Data

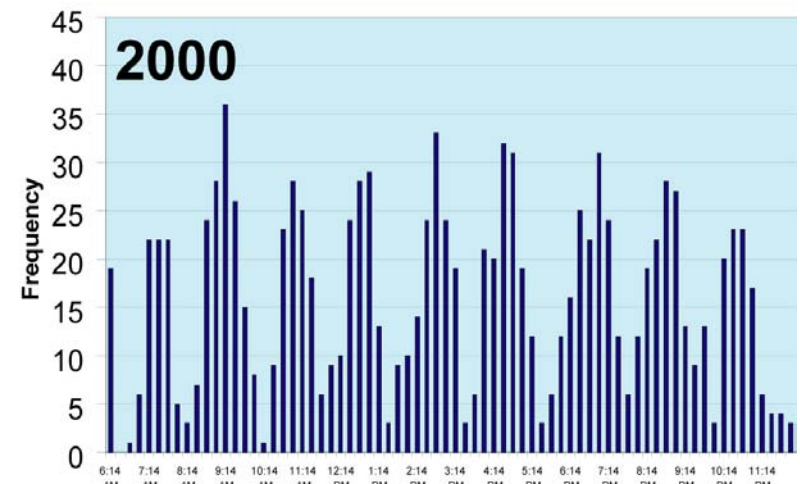
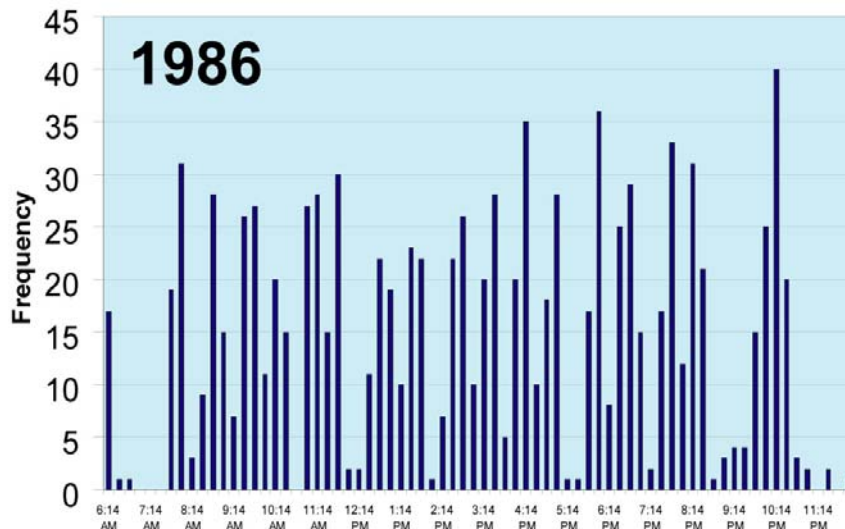
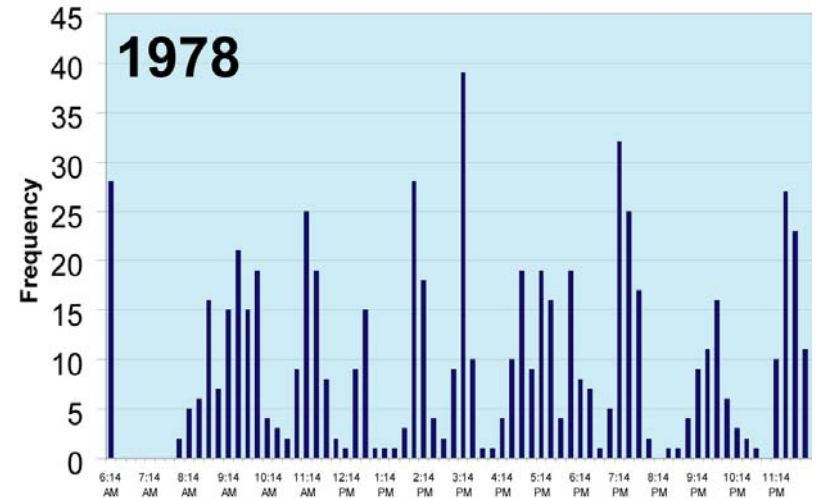
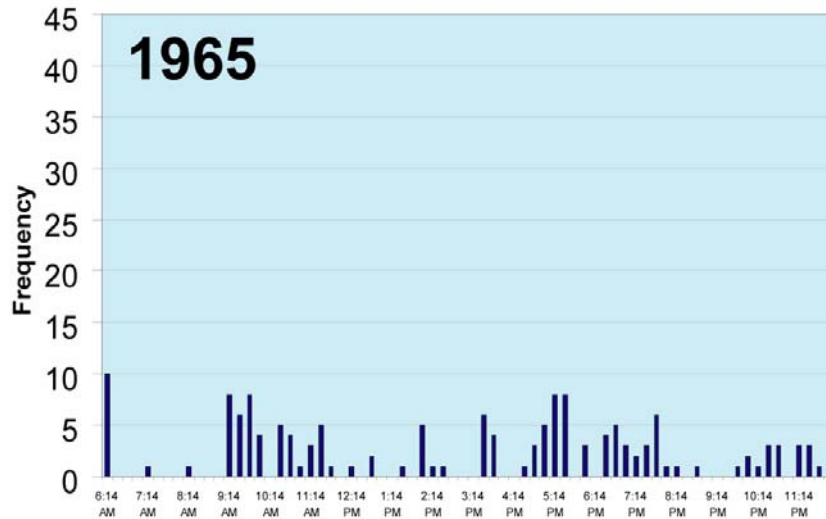


Changes in the Airline Industry After Deregulation

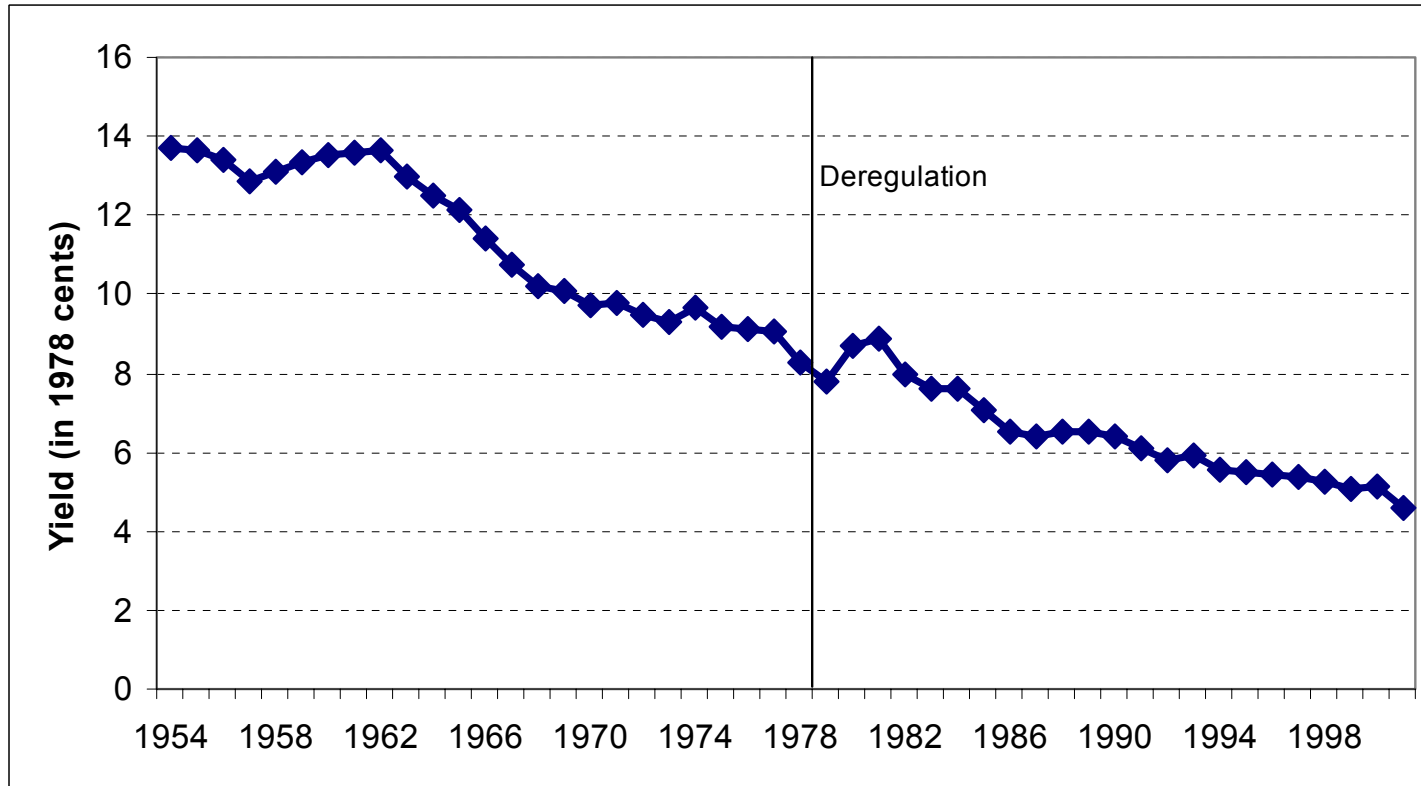


Hub-and-Spoke Networks
Yield Management

Hub Growth: Atlanta



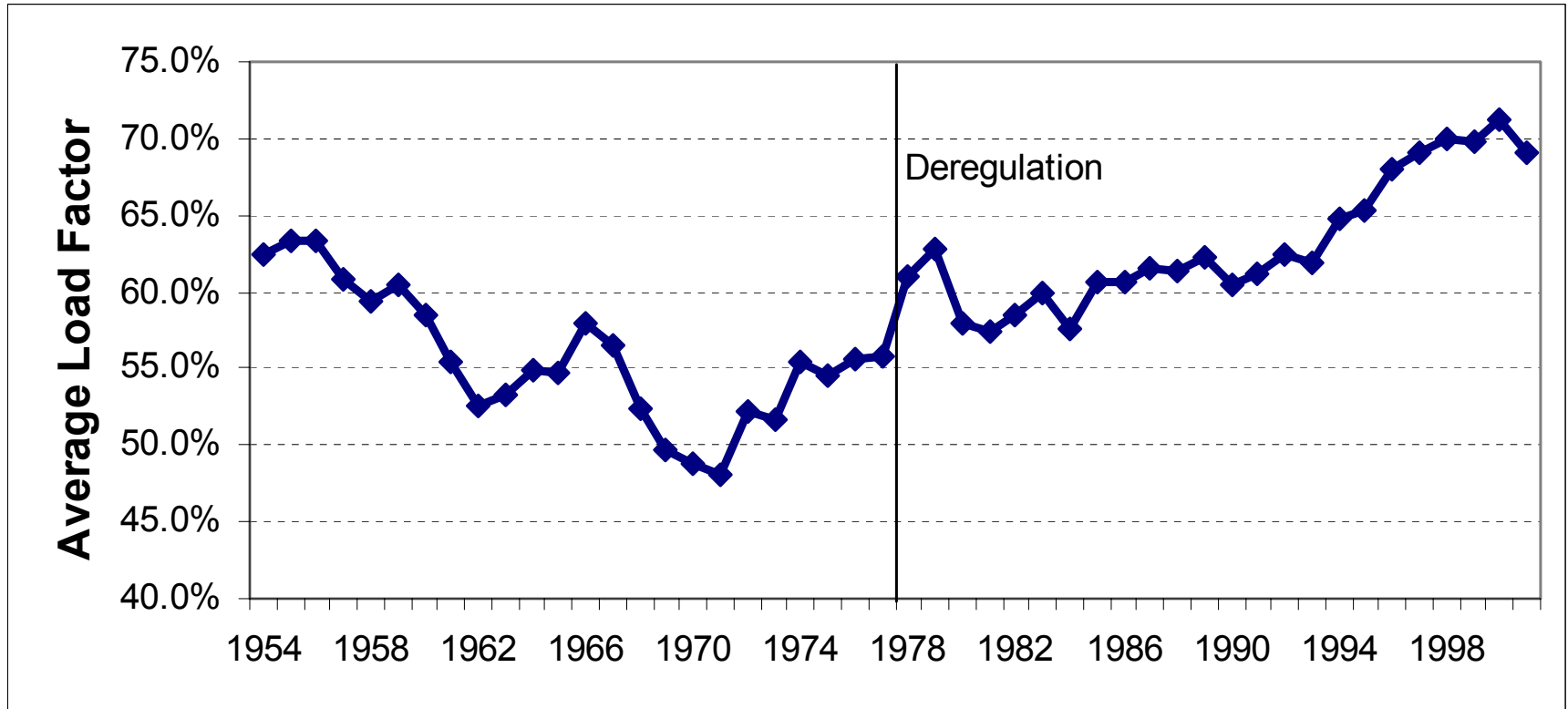
Yield Management



Real yields have gone down (1978 cents)

Source: ATA data

Yield Management



Average domestic load factors have gone up

Source: ATA data

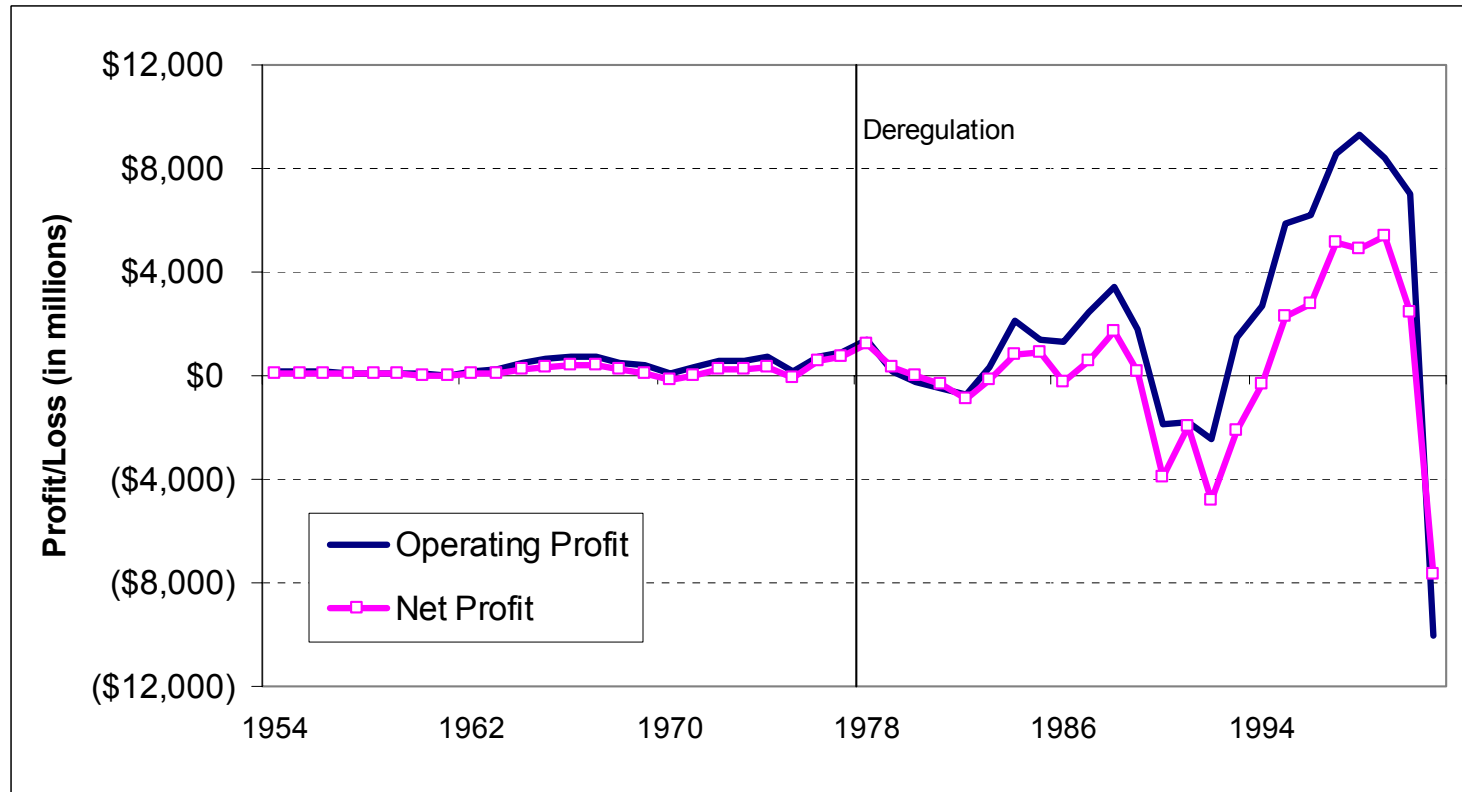


Industry Challenges Since 9/11

Airline Profitability
Post 9/11 Recovery
Investor Confidence



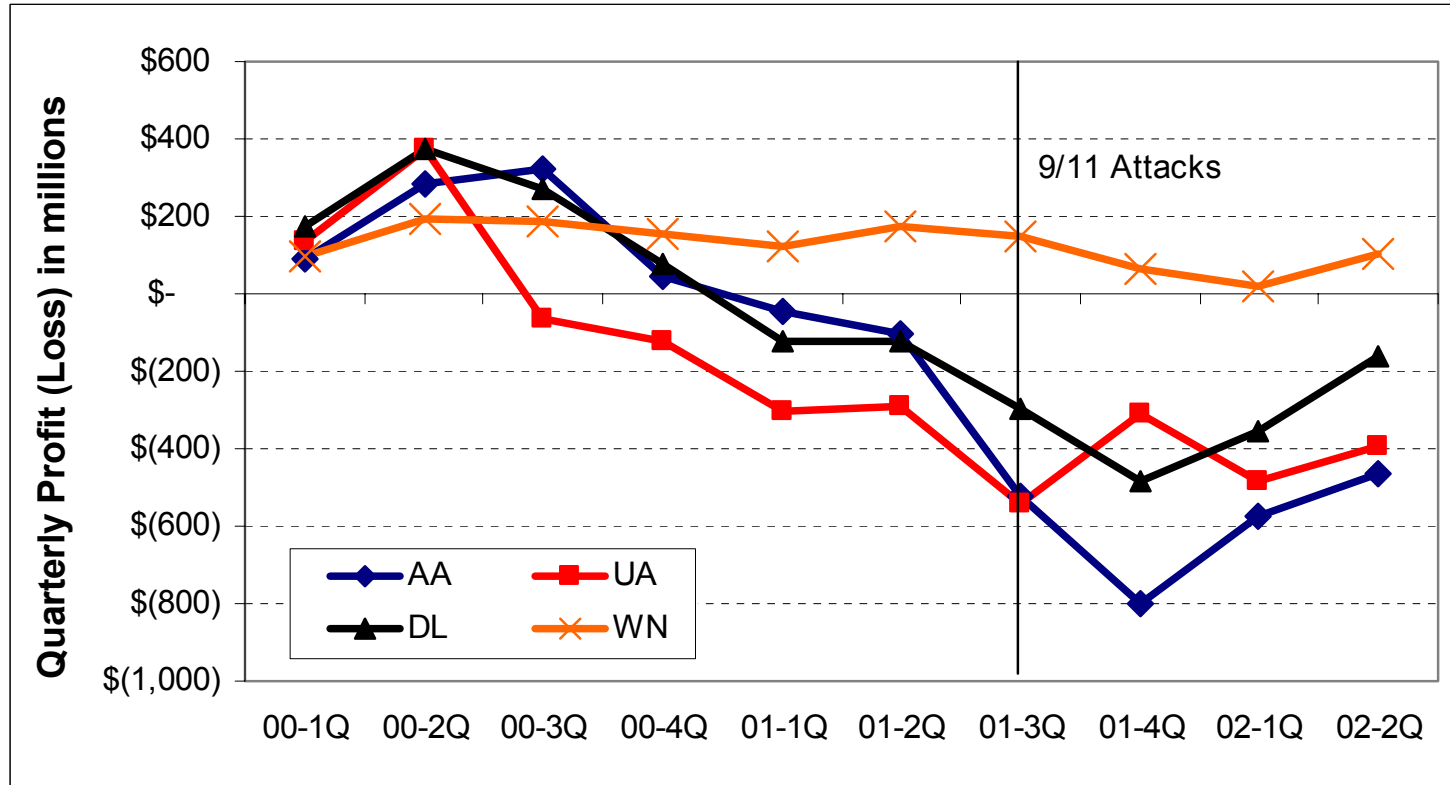
Airline Profitability



Operating profit

Source: ATA data

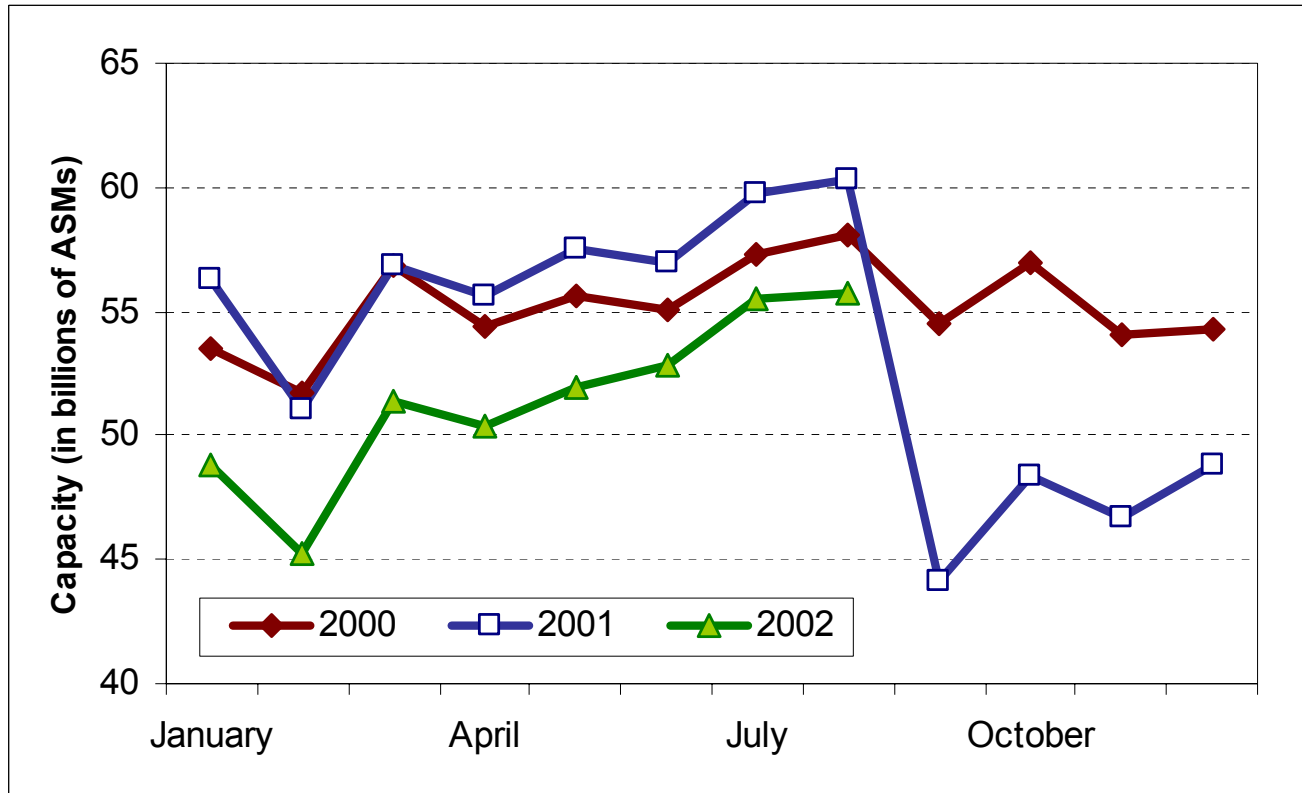
Airline Profitability



Southwest has maintained profitability after 9/11.

Source: Airline financial reports

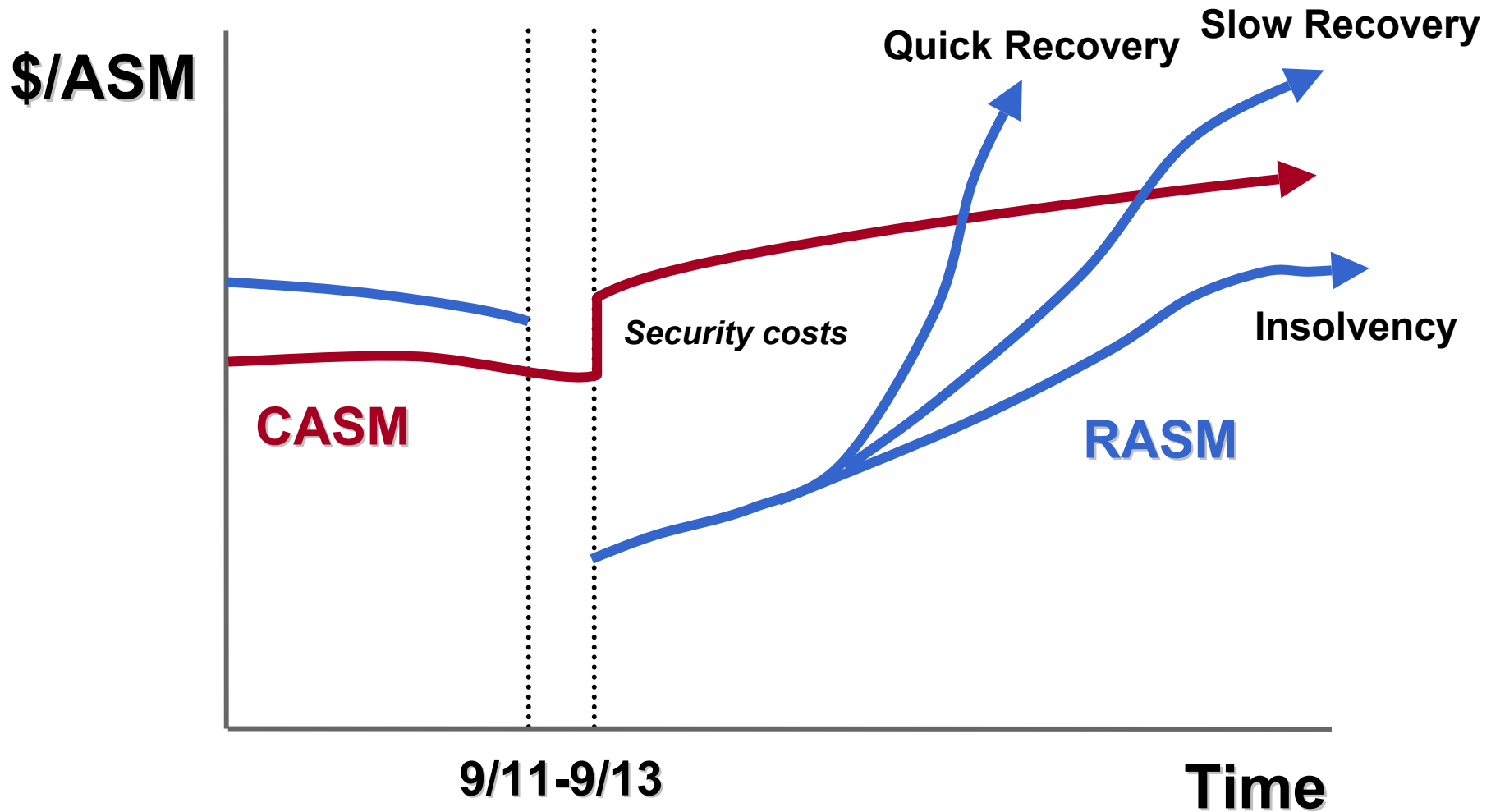
Airline Profitability



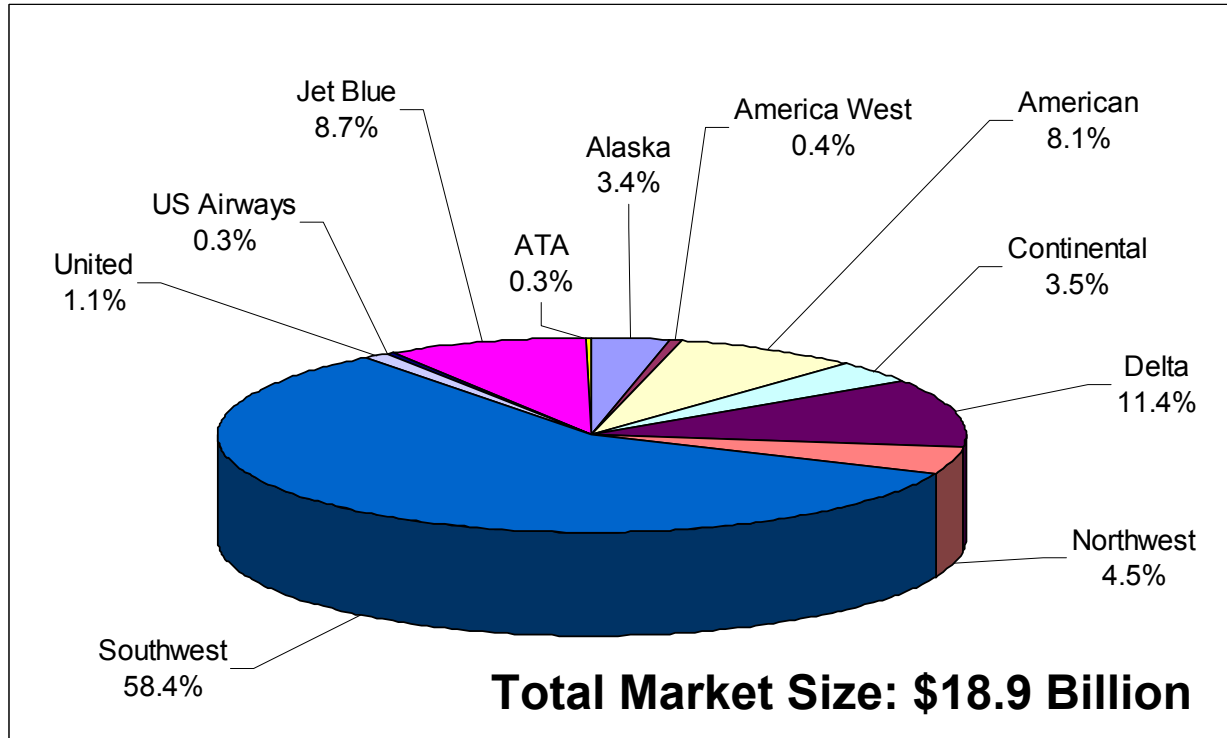
Traffic is about 7.3 percent before 2001 levels.

Source: ATA data

Industry/Airline Recovery



Investor Confidence



Southwest has a market share greater than the rest of the US majors, JetBlue, and ATA combined.

Source: Yahoo! Finance, 9/4/02



Key Questions for the Airline Industry

Key Questions

- **Industry Structure**
- **Changes in the Revenue Paradigm**
 - Traditional market segmentation assumptions are failing
 - Low-fare competition
 - Dominance of low-fare, non-work related travel
 - New paradigm is needed

- **Reductions in Operating Costs**
 - Rolling banks, other actions may decrease connectivity
- **Impact on Small Markets**
- **Government Intervention**
 - What is the appropriate role of government?
 - ATSB loan guarantees may keep yields down in some markets—worse for the industry
 - Will the public tolerate potential disruptions during restructuring?

Conclusions

- Increased usage and change in air travel demand indicates evolution of strong social and economic dependency
- Financial threat is forcing a major industry restructuring
- System is at risk; scope is unprecedented
- Further government intervention is likely



MIT International Center for Air Transportation

<http://web.mit.edu/aeroastro/www/labs/ICAT/index.shtml>

<http://web.mit.edu/airlines/>

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Industry Structure

Low-fare carriers can provide connectivity in some markets.

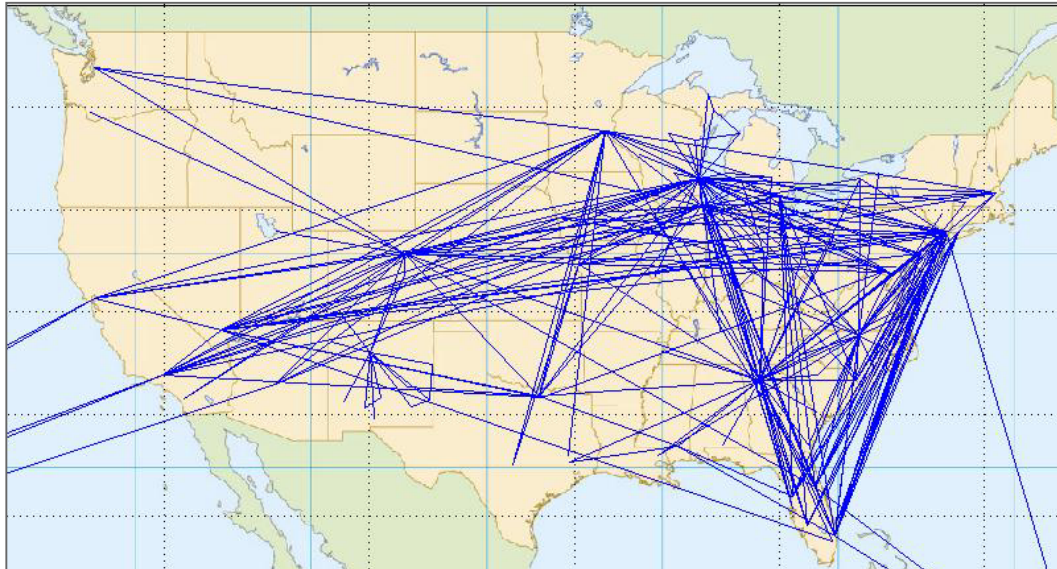


United



Southwest

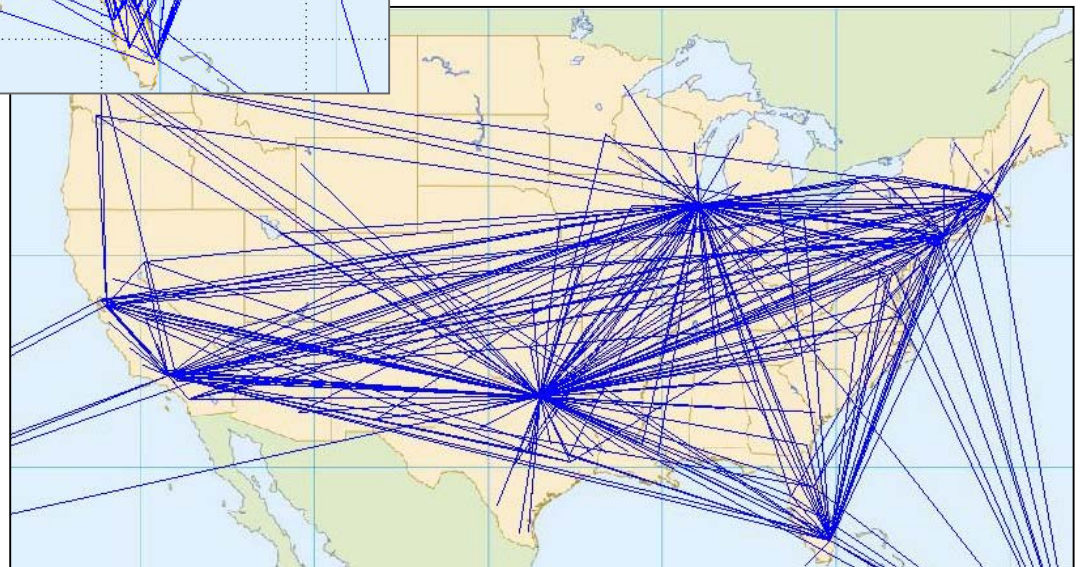
Industry Structure



Combined networks (7/00) of:

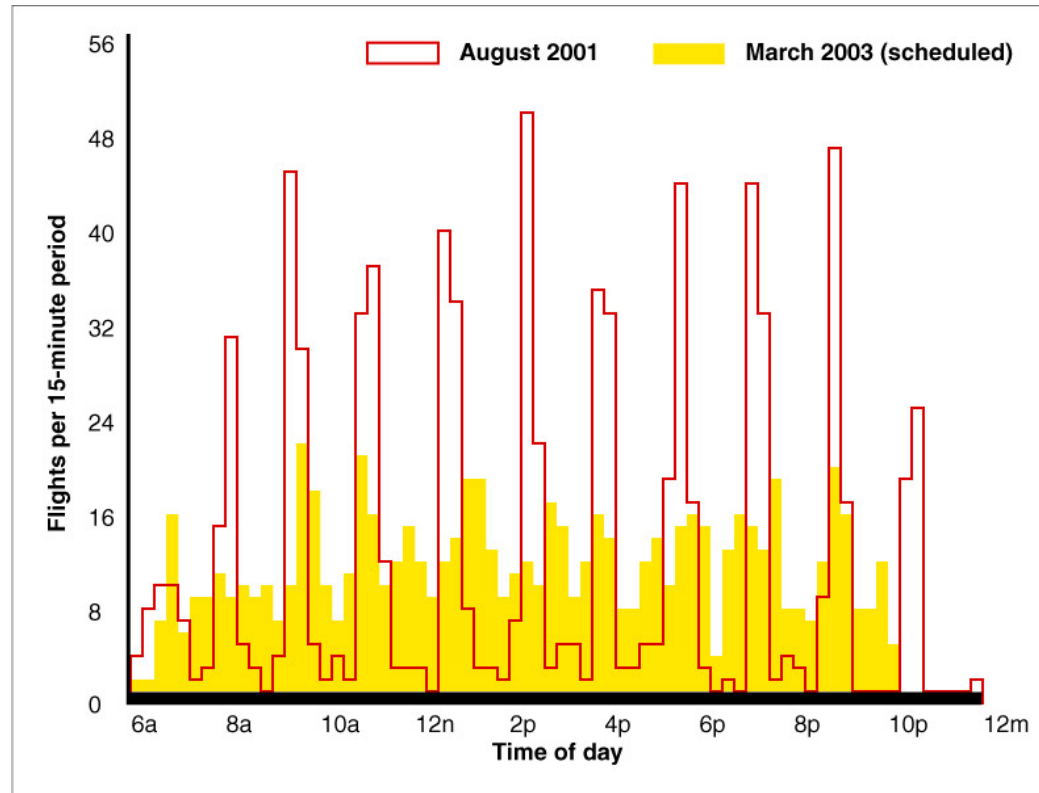
AirTran	Midway
ATA	Midwest Express
Frontier	Spirit
Jet Blue	Vanguard
Legend	

American Airlines



What is the future of connectivity?

Reductions in Costs



Source:
AA Electronic
Timetables

American is converting to a rolling bank system at DFW; more efficient, but may decrease connectivity.



Impact on Small Markets

Most communities retained service after 9/11 with reduced frequencies or smaller aircraft. Most discontinued cities had alternate service nearby.

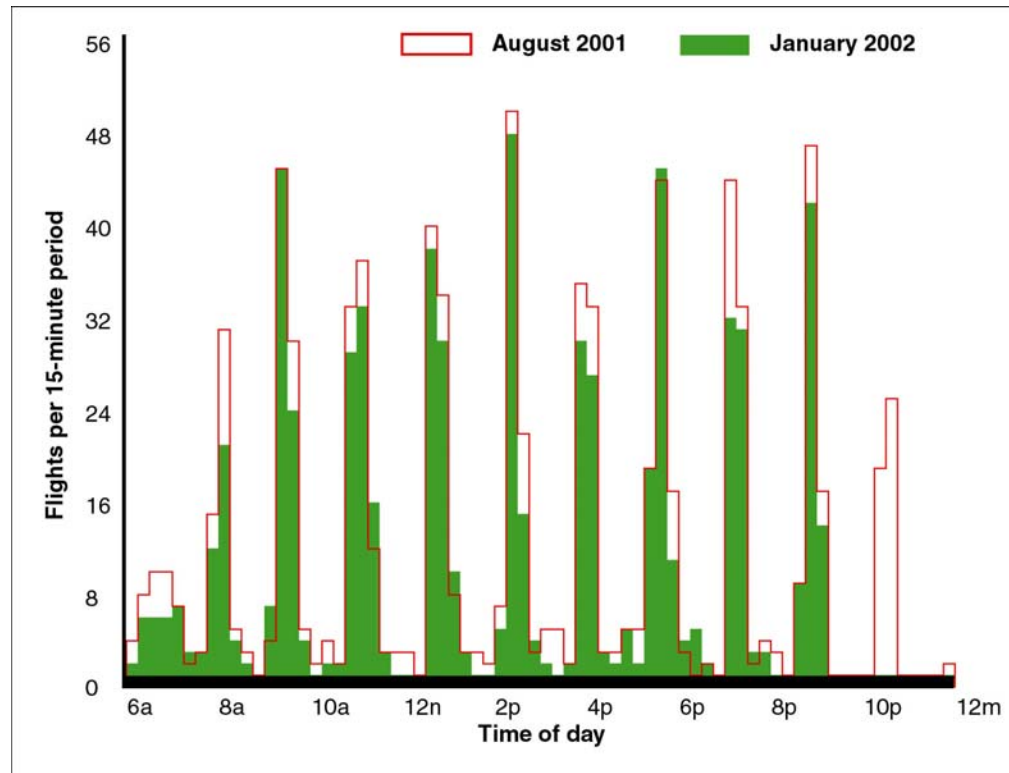
Continental

- Near DFW (<150 miles):
Abilene, Tyler, and Waco
- Near MCO (<50 miles):
Daytona Beach,
Melbourne
- Near PHL: Atlantic City

United

- Bellingham, WA
- Little Rock, AR
- Victoria, BC
- Mobile, AL
- Lynchburg, VA
- Newport News, VA
- Staunton, VA.

Impact on Small Markets



Source:
AA Electronic
Timetables

Capacity decrease at American after 9/11 was achieved by elimination of the last bank; hubs survived.

Investor Confidence

Financial market does not believe that all the carriers will survive.

